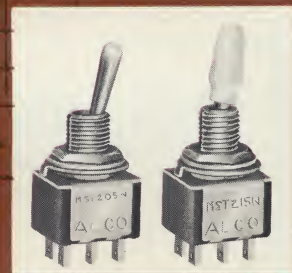


design ideas for engineers



ALCOSWITCH

Div. of ALCO ELECTRONIC PRODUCTS, INC., LAWRENCE, MASSACHUSETTS

SHORT FORM CATALOG

ALCOSWITCH

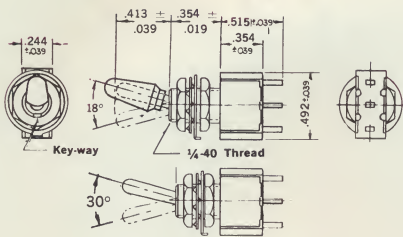
MANUFACTURED TO MEET

SPDT

MST-105 Series Slim Bat Handles



MST-115 Series Color-Coded Caps



Ultra-miniaturized **ALCOSWITCH** has an exceptionally high current capacity in a tiny case. The $\frac{1}{4}$ " thin toggle switch can be mounted in extremely close areas for aircraft and electrical equipment. Over 80,000 on-off operations. Solid silver contacts and terminals. Simple one-hole mounting.

SPECIFICATIONS

Insulating Resistance:
Over 1000 megohms @ 500 VDC.
Voltage Breakdown:
Over 1000 volts @ 60 cycles.
Life Cycle:
Well over 80,000 on-off actions.
Moisture Resistance:
Over 8 megohms after 48 hours at 40°C, and humidity of 95%.
Heat Resistance:
One Hour @ 140°C.
Case Material:
Black phenolic resin.
Contacts:
Solid silver.
Bushing Size:
Standard $\frac{1}{4}$ -40, usable up to $\frac{1}{4}$ " panel thickness.

INDUSTRIAL NET PRICE SCHEDULE

MODEL DESCRIPTION	One-24	25-99	100-499	500-999
MST-115D On-None-On	1.65	1.12	.99	.83
MST-105D On-None-On	1.65	1.12	.99	.83
MST-105E On-Off-On	1.95	1.33	1.17	.975
MST-105F On-None-(On)	1.95	1.33	1.17	.975
MST-105G (On)-Off-(On)	1.95	1.33	1.17	.975
MST-105H On-Off-(On)	1.95	1.33	1.17	.975

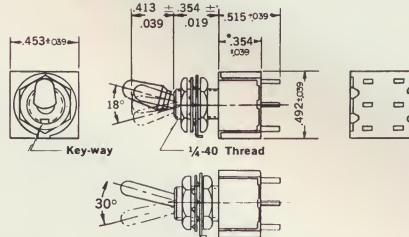
(On) (Off) Indicates Momentary Positions

DPDT

MST-205 Series Slim Bat Handles



MST-215 Series Color-Coded Caps



Combines high capacity, ultra-miniature size and long life with **ALCOSWITCH** precision. Rated at 5 amperes @ 115 VAC. Contacts and terminals are of solid silver. $\frac{1}{2}$ " sq. case size makes it ideal for miniature equipment with critical applications and rear panel space limitations.

SPECIFICATIONS

Insulating Resistance:
Over 1000 megohms @ 500 VDC.
Voltage Breakdown:
Over 1000 volts @ 60 cycles.
Life Cycle:
Well over 80,000 on-off actions.
Moisture Resistance:
Over 8 megohms after 48 hours at 40°C, and humidity of 95%.
Heat Resistance:
One Hour @ 140°C.
Case Material:
Black phenolic resin.
Contacts:
Solid silver.
Bushing Size:
Standard $\frac{1}{4}$ -40, usable up to $\frac{1}{4}$ " panel thickness.

INDUSTRIAL NET PRICE SCHEDULE

MODEL DESCRIPTION	One-24	25-99	100-499	500-999
MST-215N On-None-On	2.15	1.43	1.29	1.08
MST-205N On-None-On	2.15	1.43	1.29	1.08
MST-205P On-Off-On	2.55	1.72	1.53	1.28
MST-205R On-None-(On)	2.55	1.72	1.53	1.28
MST-205S (On)-Off-(On)	2.55	1.72	1.53	1.28
MST-205T On-Off-(On)	2.55	1.72	1.53	1.28

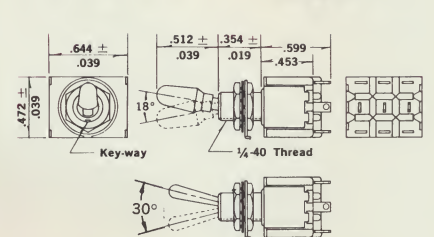
(On) (Off) Indicates Momentary Positions

3PDT

MST-305 Series Slim Bat Handles



MST-315 Series Color-Coded Caps



Features one-piece body construction for ultra-miniature space requirements. Has unusually high current rating, and is capable of handling multiple circuits simultaneously. Has high voltage barriers between terminals and contacts firmly anchored to base.

SPECIFICATIONS

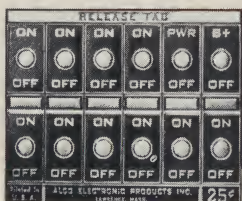
Initial Contact Resistance:
Below 20 milliohms at 2-4 VDC, 1 amp.
Insulating Resistance:
Over 1000 megohms between terminals and case ground @ 500 VDC.
Voltage Breakdown:
1000 VAC between terminals and case ground for a duration of one minute.
Life Cycle:
Well over 25,000 on-off switching actions at rated current.
Contacts and Terminals:
Solid silver.
Case Material:
Black phenolic resin.
Bushing Size:
Standard $\frac{1}{4}$ -40 • Nut, $\frac{3}{8}$ across flats

INDUSTRIAL NET PRICE SCHEDULE

MODEL DESCRIPTION	One-24	25-99	100-499	500-999
MST 305D On-None-On	3.85	2.57	2.31	1.925
MST 315D On-None-On	3.85	2.57	2.31	1.925

ALCOSWITCH

ALUMINUM FOIL SWITCH PLATES



Pressure sensitive "on-off" plates for **ALCOSWITCHES** and other miniature switches having $\frac{1}{4}$ " bushing; and for standard switches requiring $\frac{1}{2}$ " hole.

MODEL DESCRIPTION	One-49	50-99	100-Over
SP-1 Miniature type	25c	20c	18c
SP-2 Standard type	25c	20c	18c

COLOR-CODED CAPS

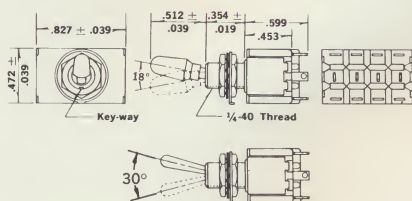
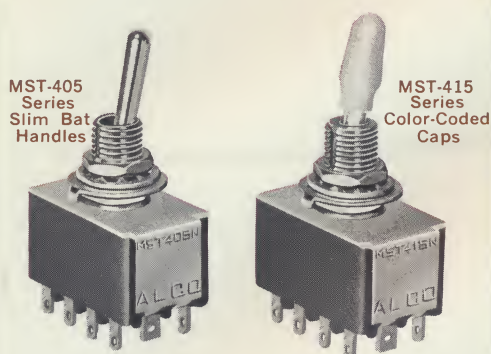


Caps will fit only MST-115D, MST-215N, MST-315D, MST-415N series switches.

The revolutionary feature of color-coded plastic caps for toggle switches has already proved to be an invaluable aid in aircraft installations and hazardous applications. Caps are removable from handle, and are normally supplied in white, but are also available in optional colors of red, blue, black.

MODEL DESCRIPTION	One-24	25-99	100-499	500-999
C-11 (White, Red, Blue, Black)	.04	.028	.025	.022

4PDT



The world's first 4-Pole toggle switch with a one-piece miniaturized body construction. Includes high voltage barriers, solid silver terminals and contacts. Can be easily mounted in compact aircraft and electronic equipment.

SPECIFICATIONS

Initial Contact Resistance:
Below 20 milliohms at 2-4 VDC, 1 amp.

Insulating Resistance:
Over 1000 megohms between terminals and case ground @ 500 VDC.

Voltage Breakdown:
1000 VAC between terminals and case ground for a duration of one minute.

Life Cycle:
Well over 25,000 on-off switching actions at rated current.

Contacts and Terminals:
Solid silver.

Case Material:
Black phenolic resin.

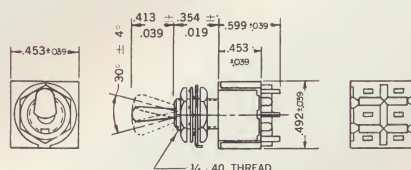
Bushing Size:
Standard 1/4-40 • Nut, 1/8 across flats

INDUSTRIAL NET PRICE SCHEDULE

MODEL	DESCRIPTION	One-24	25-99	100-499	500-999
MST 405N	On-None-On	4.85	3.29	2.96	2.55
MST 415N	On-None-On	4.85	3.29	2.96	2.55

ALCOSWITCH

SPECIAL



DPDT ON-ON-ON

New ON-ON-ON toggle switch made for applications where the Center-ON position is desired. The DPDT circuit is designed to have "ON" positions at opposite sides of the lever throw with the Center-ON operational when either circuit is used. 5 amperes @ 115 VAC. Ultra-miniature size is only 1/2".

SPECIFICATIONS

Initial Contact Resistance:
Below 20 milliohms at 2-4 VDC, 1 amp.

Insulating Resistance:
Over 1000 megohms between terminals and case ground @ 500 VDC.

Voltage Breakdown:
1000 VAC between terminals and case ground for a duration of one minute.

Life Cycle:
Well over 15,000 on-off switching actions at rated current.

WITH HANDLE TO THE KEY WAY	CENTER	WITH HANDLE OPPOSITE SIDE OF KEY WAY
ON	ON	ON
1-2 4-5	2-3 4-5	2-3 5-6

INDUSTRIAL NET PRICE SCHEDULE

MODEL	DESCRIPTION	One-24	25-99	100-499	500-999
MST-205PA	On-On-On	2.85	1.90	1.71	1.42

ALCOSWITCH

ALCOSWITCH

With the coming of the space age, weight, size, precision, stability, and difficult operating conditions place a mighty "squeeze" on electronic design. Along with miniature circuit components, engineers have to fit switches into exceedingly small areas. Today, new materials, new manufacturing techniques, new components and new switches enter into the final engineering product requiring miniaturization.

As a result, modern **ALCOSWITCHES** have been created to reduce size and weight to a minimum and bear little physical resemblance to the older switches designed during the 1930's and 1940's. These **ALCOSWITCHES** are the new shape of miniature switching devices, not of the future, but what is currently available in quantity for laboratory testing and production use.

SPDT AND DPDT SERIES

A new **ALCOSWITCH SERIES** of high quality ultra-miniature toggle switches is ideally suited for limited space requirements. Conservatively rated at 5 amperes @ 115 VAC.

3PDT AND 4PDT SERIES

The feature of the one-piece body construction is to ultra-miniaturize the case size and still be consistent with good engineering specifications. In the switch mechanism, the toggle is linked directly to the movable contact member, providing positive make and break. The switch is designed to obtain positive detent action for improved "operator feel". Solid silver contacts and terminals are well-spaced for clearance, easy wiring, and good soldering ability.

SPECIAL ON-ON-ON

This unique switching arrangement is completely enclosed in a compact black phenolic housing, and in certain applications takes the place of a 3-position rotary switch. Features a slim miniature bat handle, solid silver contacts and terminals.

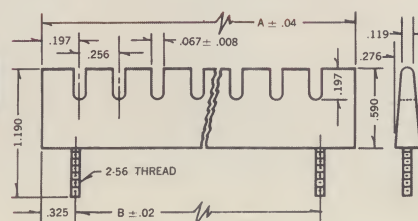
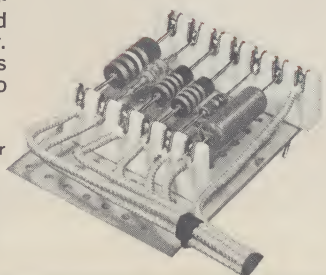
ENGINEERS: If dimensions or specifications are critical, obtain drawings from **ALCOSWITCH**, Lawrence, Mass.

**24-HOUR
DELIVERY
FROM STOCK**

NEW CERAMIC TERMINAL STRIPS

Ceramic base terminal strips have copperplate inserts that are silverplated and tinned for good soldering ability. Bond between metal and ceramic is not just an adhesion, but "fired" to prevent metal from falling off.

MODEL	TERMINALS	One-9	10-99	100-Over
MEP-2	2	36¢	24¢	21¢
MEP-4	4	45¢	30¢	25¢
MEP-6	6	60¢	40¢	34¢
MEP-8	8	75¢	50¢	42¢
MEP-10	10	87¢	58¢	49¢
MEP-12	12	99¢	66¢	56¢



MODEL	NO. SLOTS	"A"	"B"
MEP-2	2	.650	—
MEP-4	4	1.161	.512
MEP-6	6	1.673	1.024
MEP-8	8	2.185	1.535
MEP-10	10	2.697	2.047
MEP-12	12	3.209	2.560

ALCOSWITCH

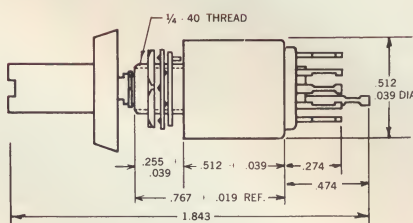
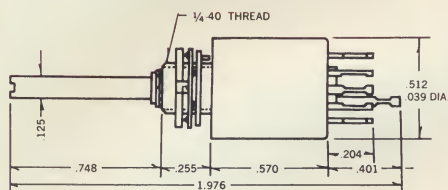
ADJUSTABLE-STOP ROTARY



MRA-1-10S, LESS KNOB, $\frac{1}{8}$ " DIA. SHAFT



MRA-1-10, WITH KNOB, $\frac{5}{32}$ " DIA. SHAFT



First, new ultra-miniature rotary switches with the invaluable feature of an adjustable-stop. Ideal for installations where size and space limitations are a factor including applications in aircraft, computers, and all types of electronic equipment. The only one of its kind, the adjustable-stop miniature rotary switch has these additional features • non-shorting • 36° spacing • up to 4 poles on single deck.

SPECIFICATIONS

Current Rating:

500 ma @ 125 VAC.

Initial Contact Resistance:

Below 20 milliohm at 2-4 VDC and at rated current.

Insulating Resistance:

Over 100 megohms between terminals and case ground (when measured with a megger of 500 VDC at room temp.)

Voltage Breakdown:

1000 VAC between terminals and case ground for a duration of one minute.

Life Cycle:

Over 10,000 switching operations at the rate of 15 to 20 full rotations per minute at the rated current.

Contacts and Terminals:

Solid silver.

Bushing Size:

$\frac{1}{4}$ - 40.

Shaft:

See Below

Humidity: Models MRA-S Only ($\frac{1}{8}$ " shaft)

Tested at a temperature of 40°C and relative humidity of 90-95% for 10 hours. Resistance between terminals and case ground will be more than 10 megohms.

Stop Guide Strain: Models MRA-S Only

The stop guide which limits rotation shall not be subjected to a force of not more than 2 Kg-cm.

INDUSTRIAL NET PRICE SCHEDULES

LESS KNOB — $\frac{1}{8}$ " DIA. SHAFT

MODEL	USABLE	One- 24	25- 99	100- 499	500- 999
MRA-1-10S	2-10 pos.	3.85	2.57	2.31	1.925
MRA-2-5S	2- 5 pos.	3.85	2.57	2.31	1.925
MRA-3-3S	2- 3 pos.	3.85	2.57	2.31	1.925
*MSRA-4-2S	2 pos.	3.85	2.57	2.31	1.925

*Fixed

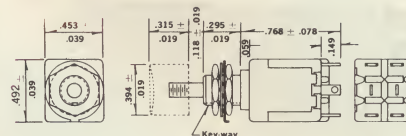
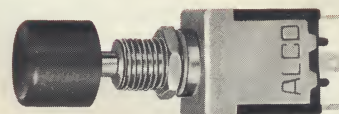
WITH KNOB — $\frac{5}{32}$ " DIA. SHAFT

MODEL	USABLE	One- 24	25- 99	100- 499	500- 999
MRA-1-10	2-10 pos.	3.85	2.57	2.31	1.925
MRA-2-5	2- 5 pos.	3.85	2.57	2.31	1.925
MRA-3-3	2- 3 pos.	3.85	2.57	2.31	1.925
*MSRA-4-2	2 pos.	3.85	2.57	2.31	1.925

*Fixed

PUSH BUTTON

MSP-205-R
Series



High current capacity in this new compact momentary push button switch designed for reliable control in aviation, military and industrial "miniature" requirements. Contact pressure is greatest at point of make and break. An audible click is produced by the snap-action mechanism. Available only as DPDT, usable as either a Normally Open or Normally Closed switch.

NORMAL CONTACT	PUSH FOR MOMENTARY CONTACT	DPDT
ON	ON	1
(1) — (2)	(2) — (3)	2
(4) — (5)	(5) — (6)	3
		4
		5
		6

SPECIFICATIONS

Current Rating:

5 amperes, 115 volts

Initial Contact Resistance:

Below 10 milliohms at 2-4 VDC 1 amp

Insulating Resistance:

Over 100 megohms between terminals and case ground (when measured with a megger of 500VDC.)

Voltage Breakdown:

1000 VAC between terminals and case ground for a duration of one minute.

Life Cycle:

Well over 20,000 on-off switching actions at rated current.

Contacts and Terminals:

Solid Silver

Case Material:

Black phenolic resin

Bushing Size:

$\frac{1}{4}$ "-40

MODEL	COLOR	ONE- 24	25- 99	100- 499	500- 999
MSP-205R *	(RED-BLACK)	2.85	1.90	1.71	1.42
C-12 BUTTON	(RED-BLACK)	.05	.036	.03	.027

*One red or black button supplied — state color

ALCOSWITCH

Div. of ALCO ELECTRONIC PRODUCTS, INC. LAWRENCE, MASSACHUSETTS

TELEPHONE Area 617 MURdock 6-3888 • CABLE ADDRESS: ALTRONICS

AUXILIARY PUSH BUTTONS

The MSP-205 series push button ALCO-SWITCHES are normally supplied with black buttons and are also available in red when requested. Additional push buttons can also be obtained. When ordering state choice of color, special markings, i. e. letters, numerals, symbols which are available for quantity users above 5000 pieces.

ENGINEERS: If dimensions or specifications are critical, obtain drawings from Alco Electronic Products, Inc. ALCO switches are high-quality, reliable units, which have been proved by laboratory tests.